CLAIMS

1. A digitally controlled hybrid power module comprising:

a switching power supply comprising an output;

a linear voltage regulator comprising an input coupled to said output of said switching power supply;

a first digital control input coupled to said switching power supply; and

a second digital control input coupled to said switching supply and to said linear voltage regulator.

2. The module of Claim 1, further comprising a first digital-to-analog converter coupled to said first digital control input.

3. The module of Claim 2, wherein an output voltage of said first digital-to-analog converter is an offset voltage.

4. The module of Claim 2, further comprising a second digital-to-analog converter coupled to said second digital control input.

5. The module of Claim 4, wherein an output voltage of said second digital-to-analog converter is equal to a desired output voltage of said linear voltage regulator.

6. The module of Claim 1, further comprising a current sensing resistor coupled to said linear voltage regulator, and an analog-to-digital converter coupled to said current sensing resistor.

7. The module of Claim 1, further comprising an analog-to-digital converter coupled to an output of said linear voltage regulator.

8. A digitally controlled hybrid power module for an automated test equipment (ATE) system comprising:

a buck converter comprising a control input and an output;

a first error amplifier coupled to said control input and to said output of said buck converter;

a first digital-to-analog converter coupled to said first error amplifier;

a second digital-to-analog converter coupled to said first error amplifier;

a first pass device coupled to said output of said buck converter;

a second error amplifier coupled to said first pass device and to said second digital-to-analog converter; and

a first instrumentation amplifier coupled to said second error amplifier.

9. The module of Claim 8, further comprising:

a current sensing resistor coupled to said first pass device;

an enable/clamp switch coupled to said current sensing resistor;

a third digital-to-analog converter coupled to said enable/clamp switch; and

a second pass device coupled to said current sensing resistor and to said enable/clamp switch.

10. The module of Claim 8, further comprising:

a current sensing resistor coupled to said first pass device;

a second instrumentation amplifier coupled to said current sensing resistor; and

an analog-to-digital converter coupled to said second instrumentation amplifier.

11. The module of Claim 8, further comprising an analog-to-digital converter coupled to said first instrumentation amplifier.

12. The module of Claim 8, further comprising a transient voltage suppressor coupled to said first instrumentation amplifier, and a third digital-to-analog converter coupled to said transient voltage suppressor.

13. A device power supply for an automated test equipment system comprising:

a digitally controlled hybrid power module;

a programmable controller coupled to said module; and

a programming interface coupled to said programmable controller.

14. The device power supply of Claim 13, wherein said programmable controller is coupled to said module by a digital data line used for enabling and disabling an output of said module.

15. The device power supply of Claim 13, wherein said programmable controller is coupled to said module by a

digital data line used for receiving data from an analog-to-digital converter associated with said module.

16. The device power supply of Claim 13, wherein said programmable controller is coupled to said module by a digital data line used for programming an auxiliary measurement system.

17. The device power supply of Claim 16, wherein said auxiliary measurement system is a quiescent drain current (IDDQ) measurement system.

18. The device power supply of Claim 13, wherein said programmable controller is coupled to said module by a digital data line for transmitting digital data to a digital-to-analog converter associates with said module.

19. The device power supply of Claim 13, further comprising auxiliary power supplies coupled to said programmable controller and to said module.

20. The device power supply of Claim 13, further comprising a digital data line for receiving data from an auxiliary measurement system.